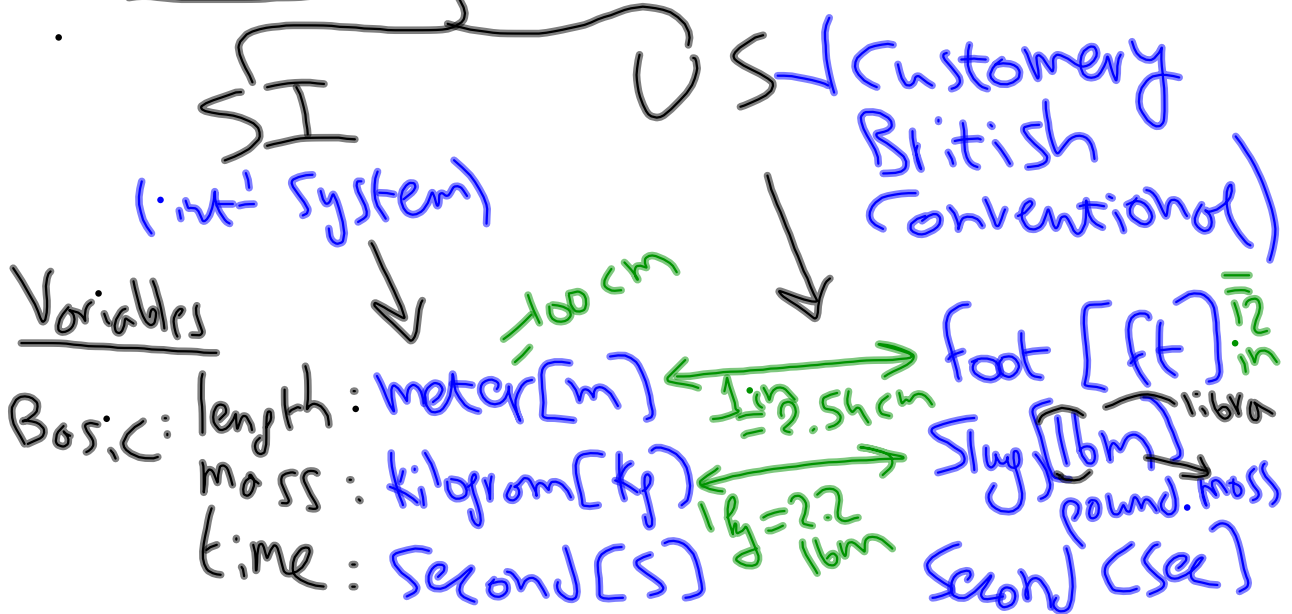


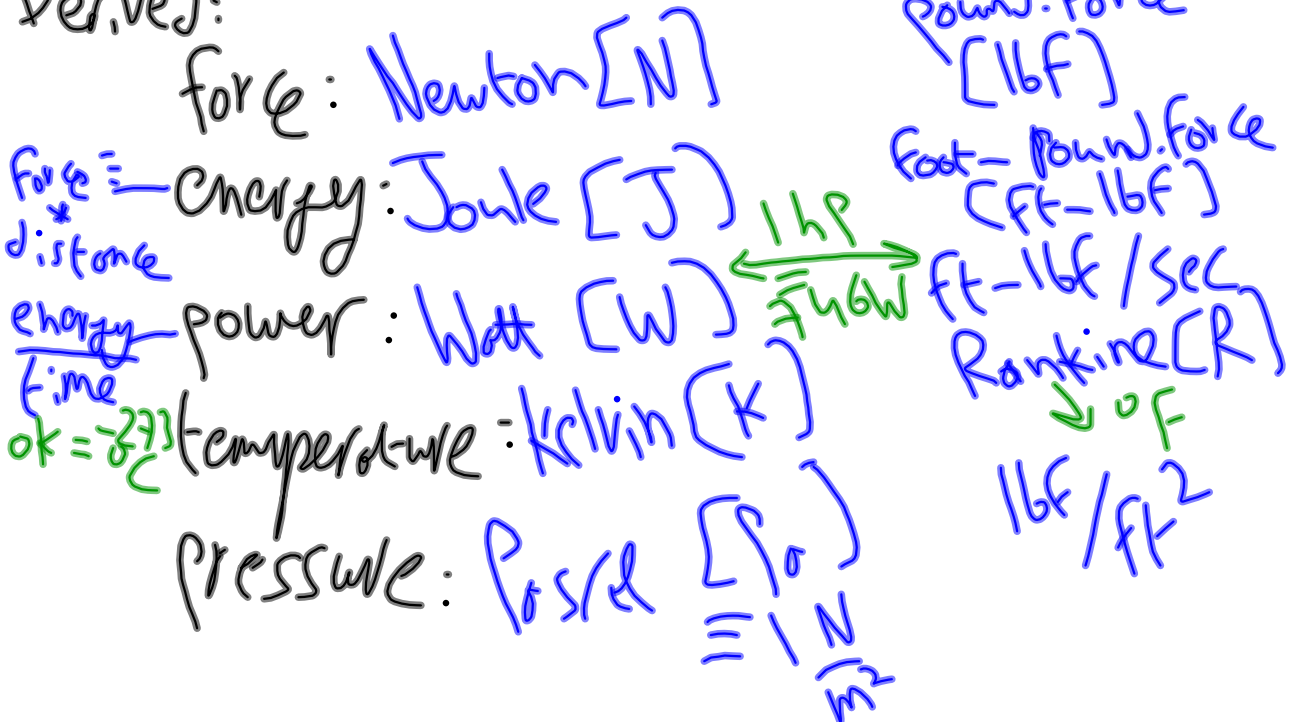
Ground Rules

* Metrology
 measurement science

* Systems of Units



Derived:



Multiples of Units

eg SI : meter [m] Scientific Notation

$$1 \text{ kilometer} = 1,000 \text{ m} = 1 \times 10^3 \text{ m}$$

$$1 \text{ meter} = 1 \text{ m}$$

$$\text{dm} = 1 \text{ Decimeter} = \frac{1}{10} \text{ m} = 0.1 \text{ m} = 1 \times 10^{-1} \text{ m}$$

$$\text{cm} = 1 \text{ Centimeter} = \frac{1}{100} \text{ m} = 0.01 \text{ m} = 1 \times 10^{-2} \text{ m}$$

$$\text{mm} = 1 \text{ millimeter} = \frac{1}{1,000} \text{ m} = 0.001 \text{ m} = 1 \times 10^{-3} \text{ m}$$

$$\mu\text{m} = 1 \text{ micrometer} = \frac{1}{1,000,000} \text{ m} = 0.000001 \text{ m} = 1 \times 10^{-6} \text{ m}$$

$$\text{nm} = 1 \text{ nanometer} = 1 \times 10^{-9} \text{ m}$$

How to express your answer

US system

length: foot [ft], [']
inch [in.], ["]

$$\text{eg } 2 \text{ ft } 5 \text{ in}$$

$$= 2' 5''$$

$$= 2' + \frac{5}{12}' = 2.417'$$

$$= 2 \frac{5}{12}' \quad \begin{array}{l} \nearrow 2.417' \\ \searrow 2 - \frac{5}{12}' \end{array}$$

$$2 - \frac{5}{12}'$$

$$= 2' 5'' = 2(12) + 5'' \\ = 24 + 5 = 29''$$

Decimal

$$2 \text{ ft } \sin = 2.417 \text{ ft} \checkmark$$
$$= 2.417 \text{ ft}$$

~~0~~
~~0~~
~~0~~